

Application of Agro-Industrial Park Concept for Rural Transformation In Gombe State; A Review for Africa Continent-Wide Adoption

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Abstract

Agriculture the world over has been more of a family vocation than a collective enterprise. As the world population increases, the need for more food becomes a challenge, this is coupled with the fact that agricultural produce/products have become essential for industrial production. It is to meet with these challenges towards increased outputs and reduction of hunger/poverty that mega/large scale farming/agriculture has become very attractive. The combination of Agriculture and Industrial activities signpost the emergence of Agro-Industrial Parks. Countries that have adopted such an approach to production have experienced a boost in their earnings from agriculture. Of recent, China has showcased the advantages inherent in mega agriculture. But Africa though came into the fray via countries like Ethiopia, and Egypt, has not shown the appropriate progress or promise in the adoption of the concept of Agro-Industrial Parks as a veritable tool for economic prosperity. This paper seeks to review the different studies on this concept, taking Gombe state in the North Eastern part of Nigeria as an example of how best to change the socio-economic narratives of most African geo-political locations. As a result of studies, it has been proven that the concept is the best option for economic prosperity, juxtaposed with the UN and UNIDO studies, it is clear that all hands need to be on deck to mushroom this industrial cum agriculture production idea. A sample design template is showcased to stimulate the interest of the different government units across Nigeria. The paper recommends political will, and adequate funds among others for a strong link between agricultural policies and politics for sustainable agribusiness as a tool for rural development in Nigeria and indeed Africa.

Keywords: *Africa Continent-Wide Projects, Agro-Industrial Park (AIP), Industrial Development, Rural Transformation,*

Introduction

The role of agribusiness in all its tri-aggregates to the socio-economic development of the rural sector in Nigeria cannot be overemphasized. It acknowledges the importance of agriculture in employing a majority of the rural population in a predominantly agrarian society like Nigeria. It draws its strength from documentary evidence on agribusiness and agro-industrial linkage and reveals that the farm, off-farm, and processing components of agribusiness are capable of generating jobs, provision of income, poverty reduction, and infrastructural growth. The paper however identifies poor policy articulations, shortage of working capital, poor infrastructure, lack of ideology etc. as major obstacles to effective agribusiness. The paper recommends a robust political will, a sound ideological frame, and adequate funds among other measures to develop a strong interface between agricultural policies and politics in achieving a sustainable agribusiness as a veritable tool for rural development in Nigeria. (Tersoo, 2014).

He stated that the role of agriculture in a growing economy where the majority of the poor employed by this sector are located in the rural areas cannot be underestimated in the development process of the Nigerian economy. Though industrialization is assigned a leading role in the development of an economy like ours in terms of its provision of employment and income; diversification of the economy and export, improvement of balance of payment; diffusion of technical and managerial skills in an agrarian economy like ours, this can only be feasible with the impetus and complementary role of the agricultural sector.

Agriculture, which is the dominant sector of a developing economy employs two thirds of the poor located in the rural sector. It therefore needs a boost towards rapid development and productivity in a linkage with the industry. The symbiotic link between these two sectors is born out of the desire to foist an integrated production structure, thereby employing the surplus labour from agriculture as well as the creation of backward integration and forward linkages. The position of agriculture as a catalyst to industrialization produces a synergy derived from the agro-industrial theory which emphasizes congruence between agriculture and industry. This theory identifies three major contributions of agriculture in industrialization which include: increased production of food, supply of raw materials and provision of capital flow, and expanded market for the manufacturing industry. These are couched in “factor”, “production” and “market” contributions (Meier, 1976, Dunmoye, 1978.).

Olayiwola, & Adeleye, (2005) posited the importance of agro-industrial promotion to rural development. It discusses the theoretical underpinning of rural development and small-scale / agro-industrial establishments. It identified the strategies that could be used for establishing small-scale industries in the rural areas. Finally, the challenges, opportunities, and benefits derivable from small-scale industrial development in rural areas are highlighted.

Taiwo Makinde (2005) asserted that lack of continuity in government policies, and inadequate human and material resources, all of which often lead to an implementation gap, i.e. the widening of the distance between stated policy goals and the realization of such planned goals. The study concluded that it is apparent that policies are rolled out regularly in developing nations but, most of the time, without achieving the desired results.

In a similar view, Ogen, (2007), emphasizes the fact that the agricultural sector is the engine of growth in virtually all developed economies. Specifically, the work limits itself to the important role of the agricultural sector in engendering sustainable development and a significant level of poverty reduction such as in Brazil. Of course, the scenario in Brazil is in contradistinction to that of Nigeria where it would seem that successive Nigerian governments have only been paying lip service to agricultural development. Thus, the essence of this comparison is to reiterate the fact that Nigeria and other Third World countries need to urgently develop their monumental agricultural potentials if they are to achieve rapid industrial and economic development.

Situating the similarity between Nigeria and Brazil, Ogen, (2007) further explained that a notable feature of Brazilian agriculture is the state interventionist and protectionist policies on the one hand and private sector participation on the other. From the purview of political economy, it could be observed that even military intervention in Brazilian politics had its imprint not only on the agricultural sector but also on the overall economy. The policy of 'Import Substitution Industrialization' (ISI) which was introduced in the 1980s articulated the development of a domestic production capacity for several initially imported products including processed agricultural products (Akinbobola, 2001:10).

The study by Kamil et al (2019) Russia seems to set the pace for the development of the agro-industrial park, they anchored their comparison to Africa's chances on the fact that the countries of Sub-Saharan Africa have enormous potential for the development of the agro-industrial complex, which dynamic growth will solve the problem of food security on the continent and ensure economic growth. The African agro-industrial complex requires new tractors and other agricultural equipment. Today, the average level of

mechanization in the countries of Sub-Saharan Africa is catastrophically low, for example, only 1.3 tractors per 100 square kilometers in Rwanda and 43 agricultural machines in South Africa. For comparison, in India and Brazil, these figures are incomparably higher (128 and 116, respectively) (Ostaev, Ya et' al, 2018).

In reviewing the study of Guteta & Worku (2023), citing (Andreoni et al., 2019; Heshmati, 2021; UNIDO, 2019a1). it can be generally summed up that the following assertions hold true for Nigeria and indeed the whole of Africa: Inclusive and sustainable industrialization has been considered as an engine of structural economic transformation within the realm of a country's sustainable development. In line with this, the existing empirical evidence shows that in order to gain leverage amid the emerging global socio-economic dynamism for promoting successful industrialization, the widely accepted argument bases the view that a contextual policy framework with proper implementation strategy is a key determining factor of the process. Substantiating this, it has been noted from the experience of the successful countries like China, Taiwan, South Korea, Singapore, Viet Nam, Australia, and Mexico that the properly planned and effectively implemented industrial parks development could be a better means of promoting sustainable industrialization as a key driver of a country's sustainable development (Narula and Zhan, 2019; UNIDO, 2020; van Beers et al., 2020). Mainly, countries undertake industrial parks development to achieve the basic policy objectives of industrialization by “attracting foreign direct investment and promoting exports; creating large-scale employment opportunity; facilitating agglomeration of industries; enhancing sustainable urban development; supporting the successful implementation of a structural economic transformation strategy; serving as technology transfer and adoption center; and acting as a test center for the new policies and implementation strategies” (Aggarwal, 2019; Farole, 2011a; Zeng, 2016).

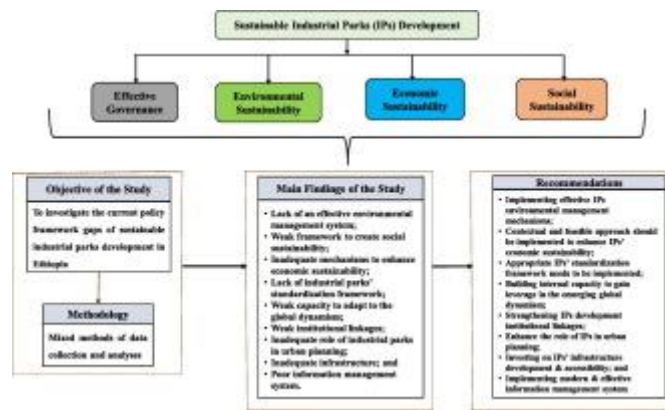
Furthermore, based on UNIDO studies and papers on Agro-Industrial Park Development, UNIDO 2019, Sustainable industrialization is a crucial process for achieving structural economic transformation of a country. Substantiating this, the 2030 agenda for sustainable development recognizes the importance of inclusive and sustainable industrialization as “ it generates economies of scale in national output; increases household income with more stable and higher-skilled manufacturing jobs; and expands consumption by setting economies on a virtuous growth cycle” (UNIDO, 2019).

To consolidate the importance of AIP as a tool for development in Africa, Adenle, et al (2017) summed up their position by stating that: Given the rising African population, there is an urgent need to refocus the continent's agricultural development strategies toward promoting rapid and sustainable economic growth, food security, and poverty reduction. Adenle, et al (2017) This debate is being led by international organizations including the World Bank, the United Nations Industrial Development Organization (UNIDO), and the Food and Agriculture Organization of the United Nations (FAO). According to a World Bank report, the potential for African agribusiness is huge in the light of untapped water resources and with 45 percent of the world's uncultivated agricultural land being within the African continent (Byerlee, Garcia, Giertz, & Palmade, 2013). The report also argued that harnessing agribusiness opportunities was critical in order to feed the region's fast-growing urban population, potentially resulting in a trillion-dollar food market by the year 2030. However, in order to deliver this goal, low levels of agricultural productivity as well as access to infrastructure and technological innovation must be addressed to fully reap the economic benefits. It is therefore fundamental to first recognize and then address these barriers on the pathway to achieving sustainable economic growth. The competitiveness of the agribusiness sector in Africa is critical to the socio-economic sustainability of the region as the informal agribusiness sector is responsible for the great majority of job creation (Yumkella, Kormawa, Reopstorff, & Hawkins, 2011). Although empirical literature is yet to fully establish a causal link between growth in the agribusiness sector and long-term socio-economic sustainability, such development can play an important role in economic development (World Bank, 2008).

To lay bare the recent embrace of industrialization related to nature, environment, green development, and agriculture to rapidly grow their economies without externalizing the negative environmental costs of development. With the encouragement of international development partners, countries such as Rwanda, Ethiopia, and Mauritius have sketched ambitious plans to decouple industrialization from environmental impacts and leapfrog to green economies UNEP, (2011, Wakeford et al., 2017).

The introductory aspect of the work of Sosnovskikh, (2017) also shows that Industrial cluster policies are a key and widely used tool for economic development in local and regional economic development planning. Industrial clusters, i.e., groups of geographically proximate companies within a similar industry, are believed to enhance employment, diversify exports, and transfer technology and managerial know-how. Crucial elements of the industrial cluster model include the provision of a collaborative and competitive environment, an appropriate geographical location and proximity to resources, related and supporting firms, and state regulations and strategic programs that facilitate innovation and productivity (Delgado et al., 2016, Feser et al., 2008, Ketels, 2013, Krugman, 1991, Porter, 1990, Schmitz and Nadvi, 1999).

Figure 1 Sustainable industrial parks development in Ethiopia



source, Guteta and Worku (2023)

Types of Special Economic Zones

Table 1. Types of special economic zones.

Type	Clarification
Free trade zones (FTZ)	Small zones, and are also known as commercial-free zones; they are fenced-in, duty-free, providing warehousing, storage, and distribution facilities for trade, transshipment, and re-export activities.
Export-processing zones (EPZ)	Industrial estates aimed predominantly at foreign markets. They offer potential investors free-trade conditions and a liberal regulatory environment. There are two types of EPZs: one is a comprehensive type that is open to all industry sectors, and another one is a specialized type, which is only open for certain specialized industries.
Hybrid EPZs	Normally, sub-divided into a general zone open to all industries regardless of export orientation and a separate EPZ area reserved for export-oriented, EPZ- registered enterprises.

SEZs	Represent a much broader concept and typically comprise much larger territories. They accommodate all types of activities, including tourism and retail sales, permit people to reside on-site, and provide a much broader set of incentives and benefits.
Enterprise specific—single factory zones	Provide incentives to individual enterprises regardless of location; factories do not have to locate within a designated zone to receive incentives and privileges.
Comprehensive SEZs	This is also called as multi-functional because they are large and have a combination of different industrial services and urban amenity operations. These zones can comprise an entire city or a jurisdiction (e.g. Shenzhen or Hainan provinces in China).
Industrial parks	Largely, manufacturing-based sites. Some multi-functional ones similar to “Comprehensive Special Economic Zones” exist but usually operate at a smaller scale and are typically designed for SMEs. The parks normally offer a broad set of incentives and benefits.
Bonded areas	This is also known as “Bonded Warehouses”. They are specific real estate facilities or other secured territories, in which goods may be stored, manipulated, or can undergo manufacturing operations without payment of duties that would ordinarily be imposed. To some extent, a “bonded area” is similar to FTZ or “free port” models. Nevertheless, the major difference is that a “bonded area” is subject to customs laws and regulations, while an FTZ is exempt from these provisions.
High-tech zones	Promote R&D activities and high technology or science-based industries; petrochemical and heavy industries.
Eco-industrial zones or parks	Concentrate on ecological developments concerning the reduction of waste and enhancement of the environmental performance of companies. They commonly employ “industrial symbiosis” principles and green technologies to achieve energy and resource efficiency. Given the severe environmental challenges, a growing number of countries is embracing this new type of zone.

Source: Compiled by Sergey Sosnovskikh, (2017) from Aggarwal (2010), Akinci and Crittle (2008), and Zeng (2016).

Focusing on our area of interest, Danbaba & Sani (2016) describe the situation of Gombe State of Nigeria in a rather sober manner, stating that: “Gombe State, being one of the well-known agrarian State in the country due to its specialization in cotton and groundnuts cultivation; today is among the lowest States in the federation in terms of development as can be justified by the state’s position in the National Bureau of Statistics (NBSs) ranking. Data for their research. The findings reveal that insufficient rainfall is the most debilitating factor affecting farming in Gombe State. The paper recommends that government at all levels should declare a state of emergency in the sector specifically with regards to linking farmlands with Dadinkowa and Balanga Dams through the construction of water canals across the State to complement the insufficient rainfall and encourage dry season farming”.

Premised on the foregoing, we can conclude that agro-industrial park development is the top-rated tool for development in Africa.

Findings

Findings from the study revealed among others that Nigeria's population is on the increase without a corresponding increase in food production, large-scale industrial farming through the public-private initiatives is not encouraged, no existing high-tech agro-based development plan, farmers in the various communities are the ones producing the bulk of the food that sustains the population but the implement they use is too rudimentary using the aged long back-breaking technology that does not encourage large scale agro-industrial projects and agro-based industries.

Conclusion

The study concluded that there is a huge gap between policy framework, politicians, and the general populace on ways and means of providing a sustainable Agro-industrial park development and operations in Nigeria and most countries in Africa. Therefore, it is only when a strong link is created among them, can the communities in rural Africa have some sense of socio-economic and technological leverage.

Recommendation

It is recommended that let thereby strong political will, policies, funding, and encouragement to sustain the tempo of providing food for all at the nearest future if Nigeria and indeed Africa are to feed its teeming population. However, this can only be achieved in an atmosphere that has few security challenges, if there is a synergy among the/or between large-scale farmers, government, and community to develop mega AIP projects in Nigeria and the continent of Africa.

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